

Claims

1. An electronic throttle valve control system having:
 - a throttle valve for controlling the amount of intake air to an internal combustion engine;
 - an electric motor for driving the throttle valve; and
 - a rotational speed reduction mechanism for reducing the rotation of the electric motor to control the rotation of the throttle valve;further comprising:
 - an urging mechanism for urging the throttle valve in the closing direction; and
 - an attenuation mechanism for attenuating the speed at which the throttle valve is rotated in the closing direction by the urging force of the urging mechanism when the control system has a failure, wherein at least one of the urging mechanism and the attenuation mechanism is connected to the rotational speed reduction mechanism.
2. The electronic throttle valve control system of Claim 1, wherein the urging mechanism is incorporated in the rotational speed reduction mechanism and the attenuation mechanism is connected to the rotational speed reduction mechanism.
3. The electronic throttle valve control system of Claim 1, wherein the rotational speed reduction mechanism is connected to the electric motor, and the electric motor is shifted to a regenerative mode and serves as the attenuation mechanism when the control system has a failure.
4. The electronic throttle valve control system of Claim 1, wherein the internal combustion engine is a multi-cylinder internal combustion engine having a plurality of cylinders, each provided with a throttle valve, and the rotational speed reduction mechanism is located between two of the throttle valves.
5. The electronic throttle valve control system of Claim 1, wherein the rotational speed reduction mechanism is constituted of a plurality of rotors provided between the electric motor and the

throttle valve, and the urging mechanism is attached to at least one of the plurality of rotors.

6. The electronic throttle valve control system of Claim 1 or 5, wherein the attenuation mechanism is constituted of a piston reciprocable in a cylinder and connected to the rotational speed reduction mechanism, and a resistance is applied to the reciprocating movement of the piston when the control system has a failure.

7. The electronic throttle valve control system of Claim 6, wherein the piston is connected to the rotor which is closest to the throttle valve.

8. The electronic throttle valve control system of Claim 1, wherein the throttle valve is rotated in the closing direction by the urging force of the urging mechanism and then held in a predetermined opening position when the control system has a failure.

9. The electronic throttle valve control system of Claim 1, wherein, the electronic throttle valve has a second urging mechanism for urging the throttle valve in the closing or opening direction.

10. The electronic throttle valve control system of Claim 1, wherein the urging mechanism is constituted of a mechanism having a spring.

11. The electronic throttle valve control system of Claim 5, wherein the rotors are reduction gears.

12. A two-wheeled motor vehicle provided with the electronic throttle valve control system according to any one of Claims 1 to 11.